

NASA News

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SOFIA SUCCESSFULLY COMPLETES CRITICAL DESIGN REVIEW

The Stratospheric Observatory for Infrared Astronomy, or SOFIA, a joint effort between NASA and the German Aerospace Center, DLR, successfully completed its Critical Design Review (CDR) on Thursday, August 17.

The review was held to present the complete system design developed by the industry team lead by the prime contractor, the Universities Space Research Association (USRA), and to make sure that technical issues have been properly addressed. It additionally ensured that the design maturity justifies the initiation of manufacturing of mission hardware and software. As a result of this major assessment, NASA's review board has provided a green light for proceeding into the fabrication and integration

phase of the project.

SOFIA is an airborne astronomy laboratory encompassing a 2.5-meter reflecting telescope within a modified Boeing 747SP aircraft. Expected to become operational in 2002, it will house the largest airborne telescope in the world. From its 41,000-foot vantage-point, astronomers will be above more than 99 percent of the infrared-absorbing atmospheric water vapor that limits what they can study using ground-based observatories. SOFIA will enable observations that are impossible for even the largest and highest of ground-based telescopes, while also giving astronomers access unavailable with space-based telescopes. Under an international agreement between the United States and the German government, DLR is responsible for the design and construction of the SOFIA telescope.

SOFIA Artist
Conception

[Click on the image to see a 4x5in image at 72dpi. 56k opens to 304k.](#)

SOFIA Artist
Conception

[Click on the image for a 9.5x7.6in publication quality image at 200dpi. 488K opens to 8.3m.](#)

New SOFIA Images

<http://sofia.arc.nasa.gov/observatory/aircraft/images/1998AC0009.gif>

<http://sofia.arc.nasa.gov/news/status/images/hangar.gif>

<http://sofia.arc.nasa.gov/observatory/aircraft/images/1998AC0012.gif>

The four-day SOFIA Critical Design Review took place from August 14 through 17 in Waco, Texas, where USRA subcontractor Raytheon Aircraft Integration Systems is modifying the aircraft to house the

44,100-pound (20,000 kg) telescope. Reviewers from NASA and several external independent review boards heard presentations on all aspects of SOFIA design, from the aircraft modification and systems integration to the science operations center, testing, and safety requirements. A summary of the successful telescope CDR, held in April in Germany, was provided. Also under review was the program schedule, including the manufacturing of all components within the scheduled plan.

Critical Design Reviews are one-time programmatic events that bridge between the design and manufacturing stages of a project. A successful review means that the design is validated and will meet its requirements, is backed up with solid analysis and documentation, and has been proven to be safe. SOFIA's CDR completion grants USRA permission to begin manufacturing of hardware.

SOFIA, part of NASA's Origins Program, will be based at NASA's Ames Research Center at Moffett Field, CA. It is being developed and operated by USRA and a team of industry experts that includes Raytheon and United Airlines for NASA's Ames Research Center and Office of Space Science, Washington, DC, and for DLR by a contractor team comprised of MAN Technologie and Kayser-Threde.

For further information about SOFIA, visit the SOFIA web site at: sofia.arc.nasa.gov.

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